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10/650,302	08/28/2003	Yukiko Kubota	S01.12-0965/STL 11036.00	6926

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ART UNIT	**PAPER NUMBER**
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/650,302
Filing Date: August 28, 2003
Appellant(s): KUBOTA ET AL.

David Bohn
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 9, 2005 appealing from the Office action mailed June 8, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 2003/0022023	Carey et al.	1-2003
US 2002/0004148	Shimizu et al.	1-2002

McGraw-Hill Concise Encyclopedia of Science and Technology, Third Edition, Sybil P. Parker, Ed., page 1100, McGraw-Hill, Inc., 1994

Magnetic Disc Drive Technology, Kanu G. Ashar, page 37-38, IEEE Press 1997

Chambers Dictionary of Science and Technology, Prof. Peter M. B. Walker, Ed., pages 497, 805, 1157 Chambers Harrap Publishers Ltd., 1999

Introduction to Magnetic Materials, B. D. Cullity, pages 357-360, Addison-Wesley Publishing Company, Inc. 1972

Electronic Designers' Handbook, Second Edition, L. J. Giacoletto, Editor, pages 2-92 to 2-97, McGraw-Hill Book Company, 1977

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6, 8-22, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carey et al. (US 2003/0022023) in view of Shimizu et al. (US 2002/0004148).

Carey et al. teach a magnetic recording medium having a seedlayer formed from a Cu-IrMn laminate, a multilayered soft magnetic layer formed from CoFe layers separated by nonmagnetic coupling layers and a magnetic recording layer thereon. The reference teaches that

the easy axis orientation is circumferential and the soft magnetic underlayer is devoid of domain walls (paragraphs 3, 5, 10, 12, 14, 16, 28, 30).

With respect to the claim limitation directed to a magnetic moment greater than 1.7 T, it is the Examiner's contention that the CoFe (i.e., FeCo) soft magnetic layers taught by Carey et al. inherently satisfy this limitation by virtue of the fact that magnetic moment is a material property and Applicant's teach using the same material. This position is supported by a statement in the specification on page 4, line 29 to page 5, line 1: "FeCo alloys exhibit the largest magnetic moment, at least 2.4 Teslas, among known materials in bulk phase."

Carey et al. is silent with respect to the texturing of the soft magnetic underlayer to provide circumferential easy axis orientation.

Shimizu et al. teaches circumferentially texturing a substrate beneath a soft magnetic underlayer in a recording structure in order to effect texturing of the soft magnetic layer thereby reducing spike noise (see paragraph 34).

It would have been obvious to one of ordinary skill in the art at the time of invention to circumferentially texture the substrate taught by Carey et al. in order to provide a soft magnetic underlayer having texture, thereby decreasing spike noise.

(10) Response to Argument

The primary issue in question is whether the CoFe alloy layers taught by Carey et al. inherently meet the claim limitation directed to a "a soft magnetic underlayer comprising a magnetic material having a magnetic moment larger than 1.7 Teslas." It has been held that where claimed and prior art products are identical or substantially identical, or are produced by

identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977). The Examiner maintains that Carey et al. shows a prior art product that is substantially identical to that claimed by Applicant with the exception of the obvious feature of circumferential texturing, which is shown by Shimizu et al.

The Examiner maintains that magnetic moment is a material property. This position is supported by a statement in the specification on page 4, line 29 to page 5, line 1: "FeCo alloys exhibit the largest magnetic moment, at least 2.4 Teslas, among known materials in bulk phase."

Appellant argues that magnetic moment is not a fixed value for a particular composition of a magnetic material. Therefore, Appellant argues, the CoFe alloy layers taught by Carey et al. do not inherently meet the claim limitation directed to a magnetic moment larger than 1.7 T.

It is noted that Appellants reference McGraw-Hill Concise Encyclopedia of Science and Technology, Chambers Dictionary of Science and Technology and Magnetic Disc Drive Technology to provide scientific background providing a definition for the term "magnetic moment" and description of the associated units of measurement as used in the instant claims. The Examiner agrees with Appellant's description of the terms.

Reference is made to Introduction to Magnetic Materials in Appellant's arguments to establish that magnetic moment of a material depends on the "thermal and magnetic history (magnetic annealing) of the material." However, the alloy shown in Fig 10.2 of this reference is a NiFe alloy and not a CoFe alloy as shown in the prior art. Thus, the Examiner maintains that

this particular piece of evidence fails to establish that the *CoFe* alloy taught by Carey et al. does not inherently possess a magnetic moment of greater than 1.7.

Furthermore, Appellant's argument appears to directly contradict the statement set forth in the specification that "FeCo alloys exhibit the largest magnetic moment, at least 2.4 Teslas, among known materials in bulk phase" – see specification page 4, line 29 to page 5, line 1. The specification provides no disclosure regarding annealing conditions or other "magnetic history" of FeCo materials required to achieve the claimed magnetic moment of larger than 1.7 T. As such, the Examiner assumes that the aforementioned statement made in the specification means that all FeCo alloys would be expected to meet the claimed magnetic moment limitation. The alternative would suggest that the specification is either non-enabling for the specific annealing conditions required to achieve the claimed magnetic moment or that the specific annealing conditions required are conventional in the prior art.

With respect to Table 2.15 set forth in Electronic Designers' Handbook, the Table does not show the property of magnetic moment. Thus, it is not clear to the Examiner how it establishes that magnetic moment is not a material property.

A secondary issue is that Appellant states that the thermal magnetic history in combination with the texture of the soft magnetic layer affect the value of magnetic moment of a material. There is no description in the specification or evidence of record to establish any relationship between magnetic moment and texturing. The Examiner maintains that the burden to set forth this evidence has been shifted to Appellant for the reasons set forth above.

The Examiner contends that Appellant has not met its burden of proof to show that prior art products do not inherently possess characteristics of claimed products.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Holly Rickman
Primary Examiner
Art Unit 1773

Conferees:
Terrel Morris
Carol Chaney